A Blueprint for Learning
Science
Third Grade

The ***Blueprint for Learning*** is a companion document for the Tennessee Curriculum Standards which are located at www.tennessee.gov/education. Although the curriculum adopted by the State Board of Education in its entirety remains on the web for additional reference, this reformatted version makes the curriculum more accessible to classroom teachers.

Key features of the reformatted version are:

- All grades for each content area are provided in the printed manual.
- The skills within each grade are identified as to whether they are introduced, developed, or have been mastered and are now being maintained at that level.
- The skills correlating with the state criterion referenced test (CRT) are also identified for classroom instruction.
- In the Language Arts section, the assessed skills (performance indicators) are identified not only for the state's CRT in grades 3-8 but also for the writing assessment in grades 5 and 8.
- This guide makes the planning of instruction for students with varying abilities easier to accomplish.
- Teachers can plan and work together to improve school wide student achievement through curriculum integration across content areas and grade levels.
- Teachers can identify current grade level skills as well as those needed to prepare students for the next year.

Skills are coded and identified as Introduced (I), Developing (D), State CRT and Writing Assessed (A), and Mastered and Maintained (M).

- Introduced (I) skills are new skills presented at that grade level. Even though a skill is considered introduced at a grade level, some development would also occur.
- Developing (D) skills are skills that have been introduced at a previous grade level. At this stage of development the skills are being refined and expanded.
- Assessed (A) skills are those skills that are correlated to the state performance indicators for the CRT portion of the achievement test (grades 3-8) and the writing assessment (grades 5 and 8). The identified skills are formally assessed through the CRT; however, all skills are informally assessed in the classroom.
    - For the purpose of data reporting, assessed (A) skills are grouped into categories indicating related skills and knowledge. For example, grammar, mechanics, and usage are grouped together under the grammar (G) category. Each state assessed indicator included on the Blueprint carries a legend showing that it is assessed and indicating the category in which it will be reported (e.g., Assessed/Grammar=A/G).
- Mastered and Maintained (M) indicates a skill that has been introduced, developed, and assessed. Even though a skill may be formally assessed, the development and expansion of the skill still continues.

KEY
I = Introduced D = Developing A = State Assessed M = Mastered

REPORTING CATEGORY
SF = Structure & Function of Organisms ME = Motion & Forces, Forms of Energy E = Ecology M = Matter
LC = Life Cycles & Biological Change ER = Earth Features & Resources SC = Space, Weather, & Climate

Note: "A" indicates the state curriculum (CRT) assessment only.
All the skills ("I"…"D"…"A"…"M") are addressed in the classroom assessment.

SCIENCE
Third Grade

LIFE SCIENCE STANDARDS

Cell Structure and Function

The student will investigate the structure and function of plant and animal cells.

Key	Reporting Category	
M		Use magnifiers to study the smaller parts of plants and identify their functions.
A	**SF**	Identify the part that belongs to a specific plant or animal.
M		Use magnifiers to observe and describe what occurs when a plant loses a specific part (e.g., leaves, roots).
A	**SF**	Identify the part that is missing from a specific plant or animal.
D		Recognize that smaller parts of organisms are essential to their well being.
A	**SF**	Identify the function of specific plant and animal parts.

Interactions Between Living Things and Their Environment

The student will investigate how living things interact with one another and with nonliving elements of their environment.

D		Examine an object's characteristics to determine if the object is living or nonliving.
A	**E**	Distinguish between living and nonliving things in an illustration.
D		Explain how plants and animals depend upon each other and the nonliving elements of an environment to meet basic needs.
A	**E**	Select the plants and animals found in a specific environment.
A	**E**	Identify the sense used to collect specific information.
D		Describe how environments are affected by various kinds of pollution.
A	**E**	Identify the environment that has been impacted by pollutants.

Food Production and Energy for Life

The student will study the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.

D		Explain how animals depend on plants to meet their need for energy.
A	**SF**	Identify the basic needs of plants and animals.
A	**SF**	Recognize that animals obtain their food by eating plants or other animals.
I		Examine the major parts of plants and determine their functions.
A	**SF**	Recognize that plants use sunlight, water, and air for photosynthesis.

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Heredity and Reproduction

The student will understand the basic principles of inheritance.

D		Recognize that organisms develop the ability to reproduce as they mature.
D		Note similarities and differences between parents and offspring.
A	**LC**	Choose the diagram that depicts a parent with its offspring.
A	**LC**	Select the illustration that shows an adult organism.
D		Describe how an organism (e.g., frog, butterfly) changes as it matures.
A	**LC**	Select the illustration that shows how an organism changes as it matures.

Diversity and Adaptation Among Living Things

The student will understand that living things have characteristics that enable them to survive in their environment.

D		Provide specific examples of differences among plants of the same kind.
A	**E**	Identify groups of similar organisms (i.e., plants and animals).
D		Specify the features that enable a plant or animal to survive in its environment.
A	**E**	Identify an organism that belongs in a specific environment.
A	**E**	Identify the characteristics that enable a specific plant and/or animal to survive in its environment.

Biological Change

The student will understand that living things have changed over time.

A	**LC**	Identify an example, other than a dinosaur, of an extinct organism.
A	**LC**	Identify evidence used to determine that an organism previously existed.
A	**LC**	Match the organism to the evidence for its former existence.

EARTH SCIENCE STANDARDS

Earth and Its Place in the Universe

The student will investigate the structure of the universe.

A	**SC**	Choose the appropriate tool for observing a specific distant object.
D		Recognize that planets are major features of the universe.
A	**SC**	Identify the components of the solar system (e.g., planets, moon).
D		Explain how day and night result from the rotation of the Earth relative to the sun.
A	**SC**	Identify objects found in the day or nighttime sky.
A	**SC**	Identify the approximate time of day from a picture of the sun's position in the sky.
A	**SC**	Identify the four basic phases of the moon.

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Atmospheric Cycles

The student will investigate the relationships among atmospheric conditions, weather, and climate.

A	**SC**	Select appropriate clothing for a given weather condition.
A	**SC**	Match the cloud type to a specific kind of weather.
D		Explain how changes in temperature, precipitation, wind speed/direction result in different weather conditions.
A	**SC**	Identify the season when given a description of weather, plants, and animals.
A	**SC**	Match temperature, precipitation, wind speed and direction, and cloud conditions with different weather conditions.
A	**SC**	Identify the appropriate tools to measure temperature and precipitation.
D		Use data to prepare an illustration of a specific day's weather.

Earth Features

The student will understand that the earth has many geological features that are constantly changing.

D		Compare and contrast a variety of different landforms and bodies of water.
A	**ER**	Identify the labeled part of a map or illustration as a continent, ocean, lake, river, mountain, or island.
A	**ER**	Select the illustration that identifies a specific geological feature.
A	**ER**	Identify a geological feature given specific information.

Earth Resources

The student will investigate the properties, uses, and conservation of earth's resources.

I		Explain the relationship between rocks and minerals.
D		Identify common types of rocks.
D		Identify materials and resources that can be reused.
A	**ER**	Identify an object as natural or man-made.
A	**ER**	Recognize the properties used to identify specific earth materials.
A	**ER**	Identify methods for conserving natural resources.

PHYSICAL SCIENCE STANDARDS

Forces and Motion

The student will investigate the effects of force on the movement of objects.

I		Describe the relationship between the amount of force applied to an object and the distance the object moves.
A	**ME**	Identify that an unbalanced force is needed to change the direction of an object.
D		Recognize that objects move differently on different surfaces.
A	**ME**	Select how surface characteristics affect the movement of an object.
D		Recognize that magnets can move objects without touching them.
A	**ME**	Select an object that would be attracted by a magnet.

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D		Describe how changing the position of an object affects a balanced system.
A	**ME**	Identify how weights affect a balanced scale.

Structure and Properties of Matter

The student will investigate the characteristic properties of matter.

D		Classify materials according to their physical properties.
A	**M**	Select an object according to a particular property.
A	**M**	Order objects according to a specific property (e.g., longest to shortest, heaviest to lightest).
A	**M**	Identify an object when given its properties.
D		Select and use appropriate tools to observe and measure the physical properties of materials.
A	**M**	Identify appropriate tools for determining the weight or length of materials.

Interactions of Matter

The student will investigate the interactions of matter.

D		Explain how materials change their form, color, or texture when they are mixed, separated, or heated.
A	**M**	Identify the effects of mixing two types of materials (e.g., salt and pepper).
A	**M**	Choose features associated with physical changes.
A	**M**	Identify methods for separating mixtures.

Energy

The student will investigate energy and its uses.

D		Analyze data to explain the heating and cooling of land, air, and water.
A	**ME**	Identify the source of the Earth's heat and light energy.
A	**ME**	Identify the illustration that demonstrates the effects of the sun on various materials.
I		Differentiate between pitch and volume.
A	**ME**	Identify how sounds are produced.

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